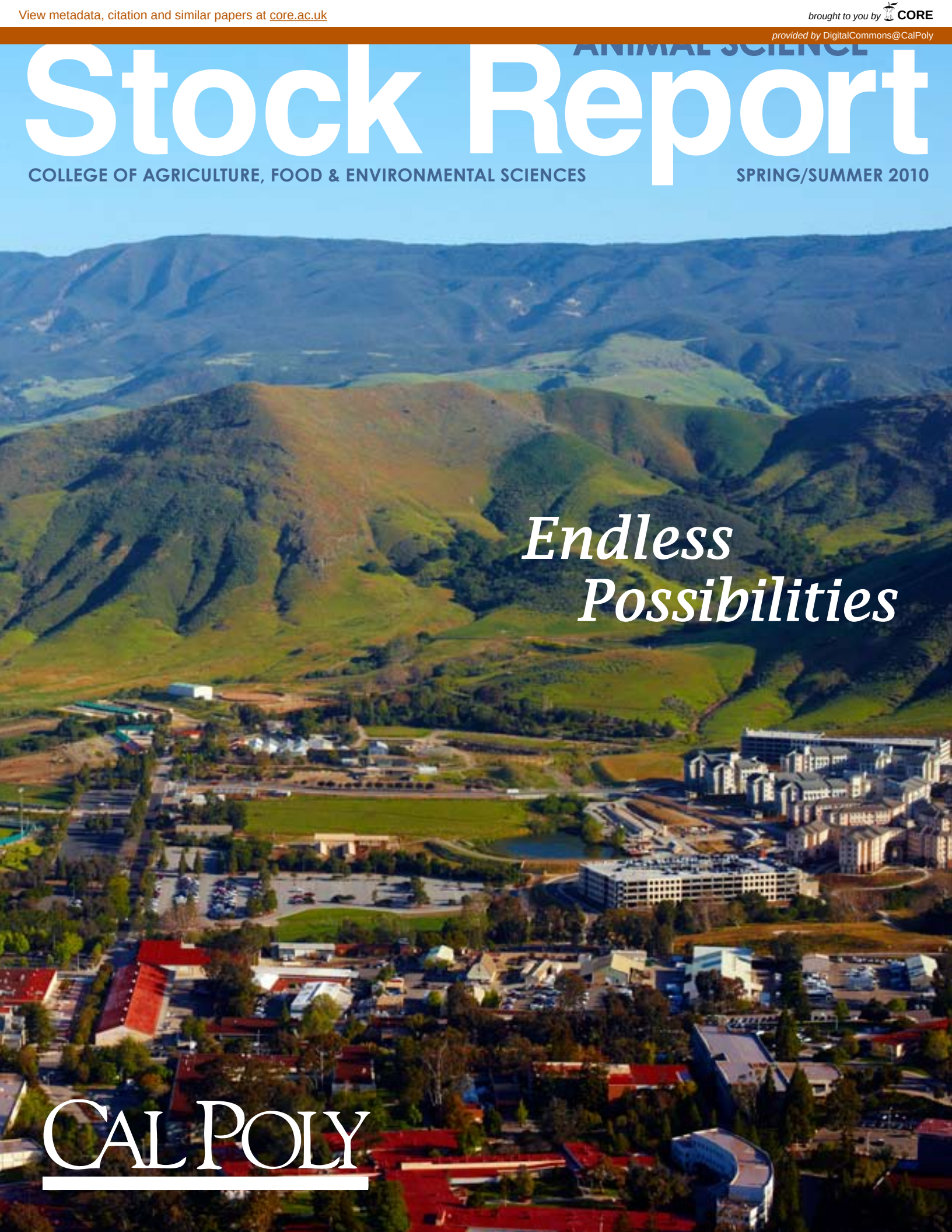
ANIMAL SCIENCE

Stock Report

COLLEGE OF AGRICULTURE, FOOD & ENVIRONMENTAL SCIENCES

SPRING/SUMMER 2010



THE *Vision* CONTINUES...

"Nobody can go back and start a new beginning, but anyone can start today and make a new ending."

- Maria Robinson

There is an old saying by journalist Letty Pogrebin, "We need old friends to help us grow old and new friends to help us stay young." Over the years, I have altered that quote to, "We need older alumni to help us remember the great things we did at Cal Poly and young students to help us change to achieve future successes." And one thing about life that is certain, change will be constant and never ending.

A few changes in teaching and support personnel have occurred recently. Professor Brooke Humphrey, who taught poultry nutrition and animal immunology, is the new global technology leader for Cargill Inc. He was a great asset to our department, and he will no doubt continue his success in private industry. Equine Center Manager Candace Cotter left Cal Poly to pursue a career in private industry. She, too, was a tremendous asset and we wish her all the best.

Sally Venn, who is finishing her masters at Fresno State, joined us in July. Her strong background in training horses and working with students will serve her well as she assumes teaching equine enterprise and other horse management courses. In addition, we have begun a search to fill the vacant position left by Professor Humphrey's departure and hope to have it filled by January 2011.

Consumers are changing. They want to know where their food comes from and how it was produced. They want animals treated humanely. They want their food safe and wholesome. To address these issues, we are replacing the old Cal Poly Abattoir with a new Meat Processing Center – now under construction – that will allow animal science students, as well as the entire university community, to learn where their food comes from. Construction is expected to be completed in October 2011.

The new Meat Processing Center received tremendous support from many wonderful donors who agreed with us that the center is needed to teach young people, consumers, chefs and the general public where their food comes from and how to ensure its safety. We are excited that this new center is finally under construction as it will be critical to our future and will have a great impact on our students.

Students working in current meat lab

OUT OF THE CLASSROOM:
INTO THE LAB

Cal Poly, known for its learn-by-doing approach, takes students beyond the classroom and into the realm of research, where exploration and discovery unleash limitless opportunities to grow and learn.

Research is indeed a core part of Cal Poly's mission and that of the Animal Science Department, which provides numerous such opportunities for both undergraduate and graduate students.

It is well documented that students who participate in research and other forms of scholarly activity enhance their critical and analytical thinking, and the Animal Science Department has a wide range of resources available to support important research projects. Our faculty members have the knowledge, experience and desire to serve as mentors to talented students, who benefit from learning the skills and patience needed to conduct proper research. Our specialized facilities provide the backdrop to a broad range of projects in applied research and development, as well as in product and analytical testing.

With faculty approval, students may elect to assist in research projects ranging from applied animal behavior and diagnostic medicine to genetics, immunology and reproductive physiology.

Many students involved in research also have the opportunity to attend national and international conferences, sometimes presenting their own findings. And sometimes even winning awards.

Following are highlights of a few projects and the professors and students who make it happen.

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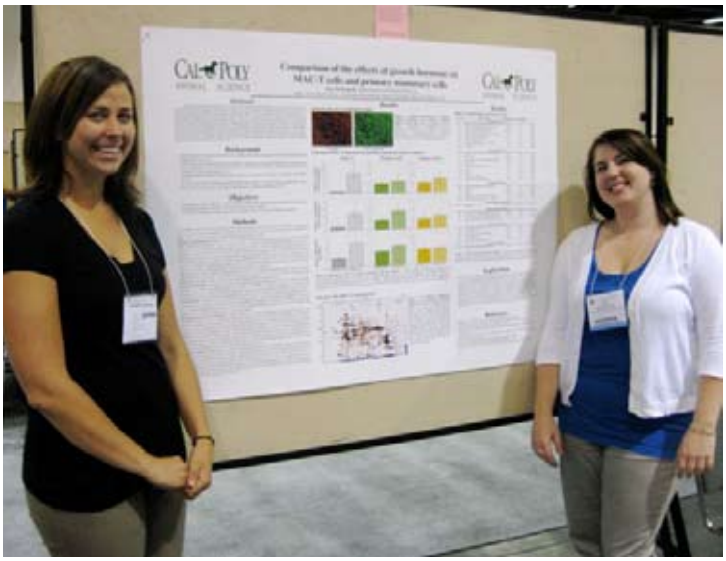


Graduate students Lisa McDonnel and Tasha Johnson

ANAHEIM IN APRIL

Professor Dan Peterson leads several research projects in the field of biotechnology, and in April he led seven students to Anaheim for the international Experimental Biology 2010 meeting, where approximately 13,000 scientists gathered to attend lectures, workshops, and oral and poster sessions.

The Cal Poly contingent included graduate students Tasha Johnson and Lisa McDonnell, who co-authored and presented an abstract and poster on research into the effects of growth hormone on bovine mammary cells; Mary Strong, who presented a poster on factors that contribute to cryptorchidism (testicular non-descent in horses); and Laura Strand, who was just starting her work in the area of mammary physiology.

Undergraduates Karen and Kelly Shaw (*also featured in a story on page 8*) and Jane Isquith presented a poster on their research dealing with equine mesenchymal stem cells and their possible use in treating tendon or ligament injuries in horses.

> "THE OPPORTUNITY FOR STUDENTS – ESPECIALLY UNDERGRADUATES, TO PRESENT THEIR FINDINGS AT AN INTERNATIONAL SCIENTIFIC MEETING IS AN INCREDIBLY BIG DEAL."

Strong, a second-year grad student, has been researching the causes that contribute to cryptorchidism. The subset of that research, which she presented at the conference, focused on the factors that regulate the production of a hormone that is produced in the cells of the testes and is necessary for testicular descent to occur. "It has been hypothesized that aberrant production of this hormone might contribute to cryptorchidism," Strong said.

A better understanding of the underlying causes could lead to better treatment. "The current treatment entails costly and potentially invasive surgery to remove the retained testes," explained Strong. "This not only poses a risk to the health of the horse, but it also removes

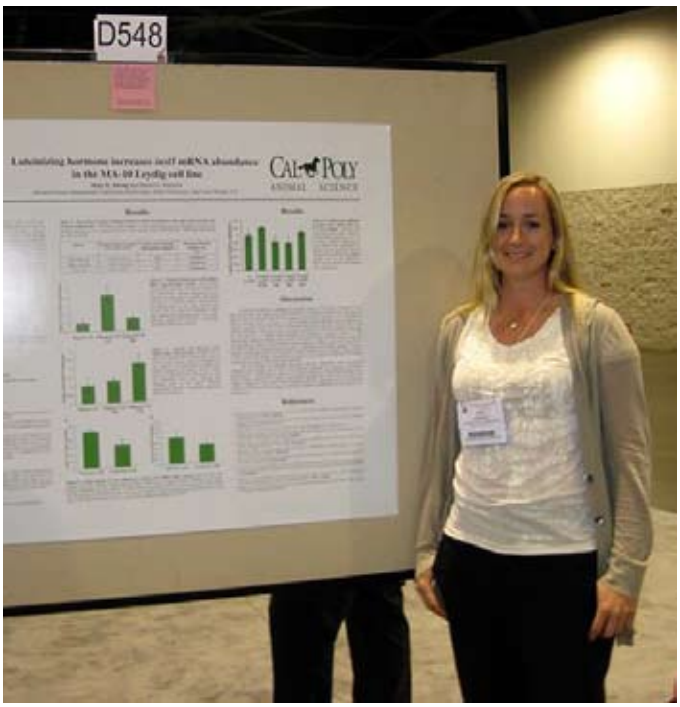
Students in Anaheim with Professor Dan Peterson

that animal from the breeding population, making it impossible for them to pass on any desirable performance traits.

"By gaining a comprehensive understanding of the events and factors that contribute to this disorder, a non-invasive hormonal treatment might be developed. And we might be able to enhance breeding selection criteria to minimize the incidence of equine cryptorchidism," she said.

The opportunity for students – especially undergraduates – to present their findings at an international scientific meeting "is an incredibly big deal," Peterson said.

Strong agrees. "The entire experience of designing, conducting and presenting my research was very rewarding and provided me with a fresh view of my project and the future I envision with this body of work."



Mary Strong with her presentation board

BROILER RESEARCH NETS RECENT ALUM TOP PRIZE

Nick Hamel (ASCI '09) took first place in an undergraduate research competition when he presented his senior project at the International Poultry Expo Scientific Forum in Atlanta in January. The project was aimed at improving calcium and phosphorus utilization in broilers, according to Professor Brooke Humphrey, who oversaw the project.

"Nick's research was a collaborative effort involving Cal Poly, a commercial broiler producer, and a company from the allied feed industry," explained Humphrey. "His research aimed to understand the effect of dietary mineral form and level on the efficacy of exogenous feed enzymes in broiler diets. This research will help improve broiler performance, minimize potential environmental impacts, and help reduce rising feed costs. The outcomes of the research identified how to maximize efficiency of these enzymes."

Hamel became interested in animal nutrition when he realized how crucial proper feeding is to animal operations. He also liked how the work varied day to day. "One day I would be working with the birds, and the next day I'd be in the lab, in a precise and clean environment," he said.

Hamel presented his project as a poster at the forum. Approximately 190 papers were presented, 64 of which were presented as posters. His first place win came as a big surprise. "I didn't even know I was entered in the competition," Hamel said.

Writing the poster for the conference presented some new challenges. "Scientific writing especially for posters is very concise," Hamel said. "You have to be as accurate as possible in the fewest number of words. There are no extra words; every word must mean something."

The conference opened Hamel's eyes to the wide range of poultry research being done and gave him ideas for different fields he could eventually work in.

For the moment at least, he is taking a break. He does plan to return to Cal Poly in January to begin graduate school, but in the meantime, he will be bicycling across the country.

Alum Nick Hamel and his 1st place research poster

(left to right) Emy Pace, Kristina Wolf and Lindsay Kirscher

(WO)MAN VS. MACHINE

Getting ready for last year's annual bull sale was no walk in the park for Professor William Plummer and a group of students who signed on to compare two different methods of counting bull semen.

One method involves a technician using a microscope and a Makler counting chamber to determine the concentration and relative motility of the sperm. The second technique employed Sperm Vision, a computerized sperm analysis system (CASA) that is "expensive, temperamental and scary to move," Plummer said. Animal Science seniors Lindsay Kirscher, Páola Wessinger and Emy Pace, plus recent graduates Carli Grimbleby and Jessica Einstein, worked with Plummer last summer to determine which method produces the most accurate results when doing fieldwork.

"While the CASA method provides a more rapid analysis and is easier on the technician, transporting it should be kept to a minimum because it can be detrimental to the equipment and render inaccurate results," Wessinger said. "It is much easier to transport a microscope and a Makler counting chamber."

But which produces the most accurate results? To find out, the researchers moved all the analysis equipment to the Cal Poly Beef Center, nine miles from the campus core. A crew collected samples from 151 bulls that were to be sold at the Annual Field Day and Tested Bull Sale. The sample was diluted and distributed to two Makler technicians and a Sperm Vision technician. Results for each method were recorded and used to statistically analyze differences in concentration and motility between the two methods.

The two Makler technicians had very similar results for concentration; however, neither was close to Sperm Vision's results, which counted about 31 percent fewer sperm than the technicians. Technician A's motility results showed a 13 percent higher motility rate then Technician B's and a 9 percent lower rate than Sperm Vision's. Technician B's estimates were consistent with those of Sperm Vision.

Although further studies are necessary to decide which system is best for fieldwork, the project taught Wessinger that "research results are critical in determining the importance of using different methods, even though multiple studies may be required to obtain significant results." Kirscher said, "Like all other enterprises at Cal Poly, it gave me hands-on experience in a positive and encouraging atmosphere so I could learn all I could." In July Plummer and the four students presented their findings at the 2010 Conference of the Society for the Study of Reproduction.

Semen straws (pictured left) are frozen and then stored in liquid nitrogen tanks (right) for export.

U.S.D.A. CLEARS CAL POLY EQUINE CENTER TO EXPORT FROZEN SEMEN OUTSIDE U.S.A.

Cal Poly has been collecting and freezing equine semen for years to preserve certain stallions' genetic lines and to ship to breeders within the United States.

That was good for Cal Poly and U.S. breeders, but that frozen semen could not be shipped outside the country. Until now.

With the U.S. Department of Agriculture's recent approval, Cal Poly's Equine Center is now poised to provide a valuable international breeding service, earn much-needed revenue and provide students a unique learning experience.

According to Equine Center Manager Candace Cotter, attaining U.S.D.A. approval isn't simple horse play. As a matter of fact, when she saw the procedures and regulations that were required, she wasn't sure they could achieve compliance.

"But with advice from a U.S.D.A. field officer and hard work by a handful of students, we did indeed accomplish it," she said. Now Cal Poly is one of only a handful of facilities in California able to freeze and export equine semen.

Before a facility is approved, volumes of material have to be ferreted out, Cotter said. The importing countries are concerned about diseases that can be transmitted via semen, and each country has its own set of regulations.

Stallions boarded at Cal Poly are under strict U.S.D.A protocols. A field officer must inspect, approve and seal the facility 24 to 48 hours before the stallion to be quarantined arrives for the quarantine period.

The stallions are housed behind a locked double fence to prohibit them from coming in contact with another horse. They have to be boarded a minimum of 30 days before starting the collection process. Blood samples and cultures are taken and sent for analysis.

Students tending the stallions have to sign in and out every time they enter the stall. They must dip their feet in a bath before each visit, wear coveralls, rubber boots and latex gloves.

"Only the horse and the caregiver are allowed in the stall," Cotter explained. "Nothing touches the stallion, including hands. When he's moved to and from the breeding barn, he can't be petted by anyone; he can't come in contact with another horse."

Once a specimen has been collected, a whole new set of protocols come into play. The specimen is evaluated, the sperm cells counted. The specimen is put into tubes that are then spun in a centrifuge to separate sperm cells from other semen components. What's left is a small amount of pure sperm cells called pellets.

"Working quickly, we add freezing extenders to the sperm pellet, which is then sucked into small straws. The straws are loaded onto a freezing rack and set over liquid nitrogen vapor at -165 centigrade. Finally it is stored under lock and key in liquid nitrogen until it's time to ship," Cotter said.

So far Cotter and her students have quarantined Imperial Al Kamar, a world-class Arabian that appeared on the December 2009 cover of *Arabian Horse World* magazine. "His semen is cleared for shipment anywhere in the world," Cotter said, "including Australia and New Zealand, the two toughest countries to export to in terms of requirements.

"Working with world-class stallions is excellent training. Freezing semen, following export protocol – these are not commonly taught skill sets," Cotter said. "It's an opportunity for students to recognize that in the real world, there isn't much room for error."

Equine DR Series digital radiography system

CAL POLY VET CLINIC GOES DIGITAL WITH CUTTING-EDGE RADIOGRAPHY SYSTEM

It looks like any standard laptop and weighs less than 28 pounds, yet this ordinary-looking computer has the capability to dramatically enhance teaching methods, significantly improve the ability of Cal Poly's veterinarians to diagnose and treat animals, and allow for a myriad of collaborative research projects.

It is the equine and companion animal digital radiography system developed by Vetel Diagnostics Inc. Combined with user-friendly software developed by EponaTech, the innocuous computer is the Cal Poly Vet Clinic's latest and most technologically advanced piece of equipment.

Its removable sensor plate is placed behind the area to be radiographed, explained Cal Poly veterinarian and Professor Matt Burd. The sensor picks up X-ray energy, and the signal is transmitted to the computer, which displays the information as a series of dots – a radiograph.

"The portable unit allows us to go up to the horse unit, or anywhere on campus or off for that matter," Burd said. That should come in handy when Burd and fellow campus veterinarian and Professor Jaymie Noland tend to Cal Poly's 15,000 animals.

"We've only had the unit about a month, and already Dr. Noland has used it to diagnose bronchitis in a dog, and I've assessed the limbs of neonatal foals that were born with crooked legs," Burd said.

Radiographs can produce truly accurate images, as opposed to other X-ray-type machines, which magnify the bones, resulting in errors of up to 10 percent. "This can be critical," Burd said. "If a doctor wants to implant a screw into a vertebra, that 10 percent error could mean the difference between putting the screw into the spinal column versus the spinal cord."

"The software allows us to look at the image and manipulate it," animal science grad student Amber Bowen said. "We can calibrate and standardize different images. We can account for differences in techniques from one facility to another through a series of standardizations - a type of marker on the radiograph."

This has been the focus of Bowen's master's thesis. She has developed a method for standardizing the brightness of a radiograph. The image's brightness can represent healing, she explained, and a wrong diagnosis can result from overexposure or underexposure.

Thanks to Bowen's research, veterinarians and technicians can gauge the brightness accurately, even if the images are taken under different circumstances and using different X-ray equipment.

The state-of-art digital radiography system can detect cancer and aids in diagnosing and treating laminitis, a devastating, debilitating disease of the feet in horses.

"The disease has been a death sentence," Burd said, "and we don't think it should be." To that end, EponaTech and Burd have established a nonprofit organization to fund research on horses. "We have managed over 30 cases, the longest has been over 10 years. Our radiographs span 10 years, giving us a tremendous bank of knowledge."

The new equipment will also be a mainstay in undergraduate and graduate education. It will be used in undergrad anatomy classes, biomechanics classes, and in the veterinary enterprise class.

The $85,000 system was acquired through two grants written by Burd and Bowen: A $60,000 U.S. Department of Defense grant and a $160,000 U.S. Department of Agriculture grant.

"This equipment will have a dramatic impact in our ability to provide advanced care to patients. And in terms of helping students, it's critical to the life they are planning," Burd said.

Jaymie Noland (center) works with veterinary students.

HORSIN' AROUND AUSTRALIA



TWIN SISTERS TRAVEL DOWN UNDER FOR EQUINE STUDIES

To hear identical twin sisters Karen and Kelly Shaw tell it, their experience in Melbourne, Australia, was perfect – from the small class sizes and the friendliness of the people, to the slower lifestyle and the exotic birds and animals.

The pre-vet students traveled half way around the world to further their knowledge in equine studies at Northern Melbourne Institute of TAFE (Technical and Further Education). TAFE institutes, like Cal Poly, are very hands on; their programs extremely focused and specialized.

Because NMIT's equine studies program is only four years old, Karen and Kelly were "the guinea pigs," the first foreign exchange students invited to participate in the program. They were there July to December – spring and early summer in Australia. "Springtime in Australia is not only about enjoying outdoor 'barbies' with your mates, it is also foaling season," Kelly grins, her eyes lighting up.

They spent time at Eliza Park Stud, the premier thoroughbred breeding farm in Victoria, where they had the opportunity to foal watch. "The farm manages more than 900 mares, and more than 250 foals are born each year. "In just one night of foal watching, we saw seven foals being born," Karen said.

Kelly and Karen Shaw

NMIT students don't just stand around and watch, though. They participate. "If there was a malpresentation, we attempted to reposition it." Kelly said. "If we needed to administer oxygen to a foal, we did that, too."

"It was amazing," chimed the twins, who frequently finish each other's sentences.

NMIT's farm, Northern Lodge, is a major equine teaching and demonstration facility and an operating stud farm just north of campus. It provides students with the opportunity to become involved in all aspects of horse breeding and management and in all phases of the day-to-day operation of a stud farm, from teasing and ultrasounding mares to stallion and yearling handling.

The three-bedroom house Karen and Kelly shared was a two-minute walk to the train station and an easy 18-minute ride to campus, where they would attend classes with sometimes only four students. "Such small classes provided a very one-on-one learning environment and gave the teachers a great deal flexibility in planning activities and structuring class," Karen explained.

"Australia is extremely diverse and multicultural. Walk one block in Melbourne, and you can find restaurants serving food from just about any country," Kelly said.

They say their experience at NMIT surpassed all their expectations. "The people are unbelievably accommodating and generous," Karen said.

Although English is the national language, the horse terminology can be anything but familiar. "In the United States, what we call a blanket is a rug in Australia," explained Karen. "A trailer is a float; a flake of hay is a biscuit, and alfalfa hay is Lucerne!" Australians also feed horses chopped up hay, called chaff.

To students embarking on an overseas' experience, the twins advise, "Embrace the culture and the people. Go with an open mind, be ready for anything, and have the time of your life!"

SCOTLAND BECKONS

Megan Helgeson and Valeria Daru

ALUMS STUDYING VETERINARY MEDICINE AT UNIVERSITY OF GLASGOW

It wasn't the kilts, the bagpipes or the Loch Ness monster that enticed alumnae Valeria Daru (ASCI '09) and Megan Helgeson (ASCI '08) to enroll in the Veterinary Medicine and Surgery degree program at Scotland's University of Glasgow. It was mainly the program's American Veterinary Medical Association (AVMA) accreditation, which allows graduates to practice almost anywhere in the world, including the United States.

It is one of only four veterinary schools in Europe to be approved by the AVMA. The program has a tremendous reputation and one of the highest overall student satisfaction rates in the United Kingdom, according to Helgeson.

And it doesn't hurt that Glasgow has a "vibrant culture with live bands, theater and the arts, amazing shopping and beautiful gardens," according to Daru.

Not that the students have an abundance of free time on their hands. According to the university's website, "The degree program consists of five years' study combined with practical experience, involving long hours of work with little free time during the university term."

Typically lectures and labs run Monday through Friday from 9 a.m. to 5 p.m. "It was a wee bit overwhelming in the beginning," admits Daru, but she said Cal Poly prepared her well.

Helgeson agreed. "Cal Poly has proven to be a priceless asset," she said. "The pre-vet program does a superb job in preparing students for pursuing their post-graduate degree in veterinary medicine."

While getting a taste of Scottish culture, the students have also had opportunities to visit other countries during school breaks. "Living in Scotland is extremely convenient for travel within the U.K. and Europe," said Helgeson, who has traveled to Britain, Ireland and parts of Europe. Daru has managed "to squeeze in trips to Paris, Dublin and Barcelona."

In addition to learning about different cultures through travel, Daru and Helgeson are making lifelong friends with students from Africa, Botswana, Hong Kong, India and Singapore. "I wanted to be immersed in a different culture, meet people from around the world, and travel," Daru said. Certainly sounds like those goals have been achieved.

Valeria Daru

In general, Daru said, "Life in Scotland is great. Life is lived at a slower pace. The culture is very old, and the Scottish people are very proud of it."

Helgeson urges students to study abroad, even if only for a short time. "If you travel abroad with an open mind, you're certain to return to the United States a more enlightened person," she said. "A major benefit of studying abroad is its ability to broaden your world understanding and perspective. You gain a different view of international affairs, from politics and economics to social issues and cultural differences."

It certainly has changed Daru's life. "I have learned a lot about myself, about other people and cultures, and how to live in a different society," she said. "This experience will influence my life forever."

Megan Helgeson

A TALE OF TWO SALES

It's summer, and while most other students are enjoying time away from campus, members of Cal Poly's Quarter Horse Enterprise are hard at it, spending hours every day working with untrained 2-year-old horses, getting them ready for auction in the fall. It's a lot of work, to be sure, but the students involved in the enterprise love what they do and say the rewards far outweigh the effort.

2009-2010 Quarter Horse Enterprise students

Aimee Herbstreith on Bob

TRAINING A QUARTER HORSE:
ONE BACKWARD STEP AT A TIME

Aimee Herbstreith is chatting with the family she suspects will buy her horse, Bob. They did, after all, buy Bob's brother and mother at previous auctions.

Herbstreith is one of about 10 students who have brought the Quarter Horses they have trained to the California Mid-State Fairgrounds in Paso Robles for the annual National Stock Horse Association's Select Horse Sale.

The sale is the culmination of the Quarter Horse Enterprise, the capstone experience for advanced students in Western riding.

Managed by Professor Pete Agalos, the enterprise charges students with "starting" an untrained, 2-year-old horse in a cattle discipline and ultimately selling that horse at auction.

Herbstreith spent six months and countless hours working with and training, Bob "Training is a long, arduous process that can't be rushed," Herbstreith said.

"The horses are difficult to teach. They have spent the last year with minimal human contact, and they have no idea what we're trying to do," she said. Herbstreith started with ground manners, which gets the horse used to walking with a halter and responding to commands, like lunging. "We try to desensitize the horse by getting him used to everything around him," Herbstreith explained.

"Then we practiced lunging with a saddle on to get him used to the weight of the saddle," she said.

After about one to two weeks, Herbstreith is ready to attempt to get on Bob.

At this point Bob has never experienced any pressure on his back other than the saddle, so it is imperative Herbstreith move slowly. Starting on one side, she puts her foot in the stirrup, stands up and comes back down. And she does it over and over again. "It reassures Bob by letting him know we are trying something new," she said.

TRAINING A QUARTER HORSE
(continued)

The first time a trainer gets on the horse's back, it's in a small pen, and another trainer is on the ground with a halter and lead rope to walk the horse around. After the first day, the rider starts using his or her own legs and the reins to get the horse moving.

"After about a week of that, they move on to trotting, and once they figure that out, they like it," Herbstreith said.

Soon it came time to teach Bob more specific commands, like backing up. "I pulled the reins and squeezed with my legs. Bob knew he was supposed to do something, he just didn't know what. Instead of stepping back, he reared up. That's the first time I've been on a horse that's reared, but I knew he wasn't trying to hurt me or throw me off. He was overwhelmed and just didn't know how to respond.

"After that, we literally took it one backward step at a time. If a new experience became too stressful, he responded by rearing up," she said.

It wasn't long before Bob got the basic riding down, and then he mastered working with cattle.

Now it was time to go to market. Herbstreith was both excited and apprehensive as the bidding on Bob began and kept going up. "I could see the family that had bought Bob's brother and mother bidding, but I couldn't see who was bidding against them," she said.

Suddenly the bidding stopped. Herbstreith spotted the winning bidder.

Her mom.

"I was shocked and happy," said Herbstreith. Bob now lives on two-and-a-half acres in Nipomo, close enough for Herbstreith to ride him just about any time she wants.

AUCTION ACTION - SNAFFLE BIT FUTURITY

Bonnie Bauer

The Snaffle Bit Futurity began 40 years ago as a modest reined cow horse show with 27 entries. Today it is considered one of the premier shows in the western United States, spanning 12 days and boasting some 400 entries.

And Cal Poly is the only university in California to have students ride in the hugely popular event. "We have that opportunity because Cal Poly is so hands on," said Emily Benson, a fourth year agricultural science major who traveled last year to the Reno Livestock Events Center in Nevada, where the event is held.

For a horse to be considered for auction, students in June must submit videos of themselves working with the horses they've been training. "We are shown doing arena work trotting, loping, stopping and rollbacks," explained fourth year animal science major Sarah Senff.

"The second part of the video demonstrates working horses on cattle, and the third part is an up close view of the horse for conformation purposes," Benson said.

The students went the extra mile and edited all the video and wrote introductions for each entry, which included the horse's name and the name of the student rider. "It was a good learning experience," said Senff, laughing. "It took us two hours for each DVD, 12 hours total." Four horses were accepted into the Select 2 Year Old Sale, and a yearling, Foxy Hickory Girl, went to the Select Yearling and Broodmare Sale.

At the show, the students don't just sit and watch the sale, they work it. "As runners, we take the paperwork from the auctioneer to the buyers," student Brianna Montoya said. "That means, quickly climbing the stairs in a large stadium like setting through thousands of people and finding the buyers."

Sarah Senff

The students say it is a once in a lifetime experience. "Not many young college girls can say they took part in something that big," Senff said. "We put so much time and effort blood, sweat and tears into training that horse, three to four hours every day. If they're hurt, we hold them when the vet treats them. When we sell that horse, it is emotional and it is an accomplishment."

(left to right) Sarah Senff and Erin Schlegel

Abby George

FOR THE LOVE OF HORSES

The Cal Poly Equestrian Team has taught many students many things. Horsemanship skills? Check. Teamwork? Naturally. Sportsmanship? Of course. Overcoming extreme shyness? Yes!

Team co-captain Abby George claims her three-year involvement with the team has helped her come out of her shell, an unexpected plus for the third-year biomedical engineering major.

George and Mia Peterson, a fourth-year animal science major, served as team co-captains this year and both claim the experience has given them a leg up in organizational skills and managerial competence.

CPET is part of the Intercollegiate Horse Show Association (IHSA) and competes against the College of the Sequoias, Stanford, UC Davis, UC Santa Cruz, Sonoma State, Santa Clara University and the University of Nevada, Reno. The team is open to students across campus, regardless of their riding level. "Some team members have never even been on a horse," said Peterson, yet everyone has the opportunity to compete.

Professor Pete Agalos serves as the faculty advisor, but team members pride themselves on being self-sufficient. From scheduling practices and clinics to making travel and show arrangements, the students handle it all.

George and Peterson hold weekly meetings to keep members current on upcoming events and shows and to plan social events, including the ever-popular boot cleaning parties.

Team members also take care of Cal Poly's horses. "We do everything but the feeding. We groom the horses, clean their stalls, exercise them daily, and give them love and care," Peterson said.

Add to that six practice sessions a week, and one begins to realize that belonging to CPET requires a great deal of work, but it's truly a labor of love.

Both George and Peterson have been involved with the team since their early freshmen days. In Peterson's four years on the team, she has seen it grow from about 30 members to more than 70.

George and Peterson say they live for the shows. "Showing in the ring is both exciting and challenging," George said. "We compete on horses that belong to the host college, horses we've never ridden before. We can't even pick up the reins before we go into the ring, so the competition is truly a judge of the rider's ability."

"At the end of this year's season, we had six team members in seven classes advance to regionals," George said. "More riders than any other year." Of those six, three – Alison Van Der Kar, Marina Dawson and Christy Jardetzky – went on to the next level of competition, known as the Zone Finals.

Riders who place first or second at Zones, go on to the nationals. Van Der Kar earned the honor and competed at the IHSA National Championships at the Kentucky Horse Park in Lexington in early May.

"CPET was a huge success this year," Peterson said. "We were the high point team at our last seasonal show, accumulating more points than any other team. That's a huge accomplishment and a first for CPET."

Winning is certainly something both George and Peterson aspire to, but both are grateful for just having the opportunity to be part of the team. "Belonging to CPET has meant everything to me," Peterson said. "It's my favorite part of school, and it's largely why I chose Cal Poly."

(left to right) Abby George and Mia Peterson

CD featuring poultry lesson plans

HIGH SCHOOL AG STUDENTS TO LEARN ABOUT POULTRY, THANKS TO GRANT FROM NATIONAL ASSOCIATION

High school agriculture students throughout California are about to learn everything they need to know about poultry, thanks to grants and support from the California Poultry Federation, Pacific Egg and Poultry Association, and the U.S. Poultry & Egg Association. With that funding, Cal Poly and Fresno State joined forces to develop a high school curriculum designed to teach students about all aspects of the poultry industry.

The goal of the project was to provide agriculture educators with a comprehensive poultry resource that would enable them to teach students about commercial poultry. Under faculty supervision, students from both campuses developed 14 lesson plans on topics ranging from the history of the poultry industry to chicken genetics and reproduction, turkey reproduction and production, broiler production, biosecurity, and more. Professor Brooke Humphrey led the project at Cal Poly.

The curriculum and lesson plans were made available on a CD in time for the 2010 California Ag Teacher Conference in San Luis Obispo in June. USPEA hopes to make the curriculum available to teachers across the country.

COMMENCEMENT 2010

The Animal Science Department graduates a total of about 150 students each year at commencement ceremonies held in December and June. Each year, the faculty select and recognize up to 10 graduating seniors for outstanding accomplishments and contributions to the department, the College of Agriculture, Food and Environmental Sciences and to the university. This year Hannah Ewing from Fresno was recognized for having the highest cumulative grade point average – over 3.86. Other animal science seniors recognized for their outstanding accomplishments and contributions include: Carley Corado of Granite Bay; Nicole Einfalt, Santa Clara; Seiche Genger, Eureka; Christina Giacomini, Bishop; Courtney Steele, Saugus; Kelsey Madden, Lake Forest; Caitlin Manring, San Diego; Jackie McArthur, McArthur; and Carlie Perham, Elk Grove.

June 2010 Cal Poly Animal Science Graduating Class

Western Bonanza Management Team

WESTERN BONANZA:
GOING STRONG AFTER 26 YEARS

Cal Poly's Western Bonanza Junior Livestock Show concluded another successful show during President's Day Weekend 2010 with more than 465 in attendance at the Paso Robles Event Center. The show kicked off with the Fit and Show, where beef exhibitors, in mock preparation, sped through the process of getting their cattle ready for a show. In all, 230 steers, 182 heifers, 227 hogs, 199 lambs, and 91 goats were shown. The Barrow Derby, new this year, had a total of 57 entries. This year, Western Bonanza became the first junior livestock show to have the entire show streamed live on the Internet, giving those who weren't able to attend a chance to see it live. Western Bonanza is managed entirely by Cal Poly students. Be sure to mark your calendar for next year's event on Feb. 11-13, 2011.

Sheep show judging

Kaitlin Spak

DRESSAGE TEAM GOES TO NATIONALS

After winning regionals this year, Cal Poly's Dressage Team sent four riders to the national competition at St. Andrews Presbyterian College in Laurinburg, N.C., where the team placed eighth.

Adrienne Klamt (First Level), Kaitlin Spak (Upper Training), Rachael Knopf (Lower Training), and Kelly London (Intro) competed as a team at the Intercollegiate Dressage Association National Championship in late April. London placed third in her class. Katrina Faris (First Level), Bri Husby (Upper Training), and Lauren Quincy (Lower Training) competed as individuals at the national level.

The Cal Poly Dressage Team is a student-run organization with about 20 students. They coach themselves and raise their own money, according to team advisor Professor Jaymie Noland. "They do a great job. They keep the whole region going," Noland said. The team competes as part of Region U, which includes California, Washington and Oregon.

Kaitlin Spak, Rachael Knopf, Adrienne Klamt, Kelly London, Lauren Robinson

2009-2010 Thoroughbred Enterprise Class with Steve Schwartz (ASCI External Advisory Council member)

KENTUCKY DERBY DELIVERS

Good fortune rained down on Professor Jaymie Noland and the 11 students she accompanied to this year's Kentucky Derby. Thanks to Animal Science External Advisory Board members Steven Gale (ASCI '79) and Steve Schwartz (AGB '72), the group was treated to more than great seats at the 136th Kentucky Derby and Kentucky Oaks. Schwartz helped fund the trip, and Gale lined up a tour of Gainsborough Farm, the world-class breeding facility owned by the Ruler of Dubai, Sheikh Mohammed. Noland and her students also toured eight other farms, including Lane's End, home to some of the country's top thoroughbreds and broodmares. Renowned veterinarian Kim Sprayberry gave them a private tour of Hagyard Equine Medical Institute, considered one of the world's premier equine practices, and they toured the University of Kentucky's distinguished Gluck Equine Research Center. In a chance encounter, the students met one of the country's top trainers, Kenny McPeek, who gave them a tour of his barn on Churchill's backside and invited them to tour his farm in Lexington. "In all, it was a magical trip," Noland said.

Site of the Meat Processing Center

CONSTRUCTION UNDER WAY ON MEAT PROCESSING CENTER

What a difference five years has made to the Animal Science Department. Back in 2005, we were planning the relocation of the old Beef Unit, the old Feed Mill, the Abattoir, and construction of Poly Canyon Village – a 2,700-bed apartment complex built where the animal science facilities once set. We completed the new Beef Center, located at the Escuela Ranch, in spring 2006 and the new Animal Nutrition Center in spring 2008. Now we are in the final lap, with the construction of the new Meat Processing Center (MPC) finally started.

In July we began construction of the new Meat Processing Center. The faculty, staff and students of the Animal Science Department have been busy planning and working with private donors and the meat processing industry to make the new facility a reality. While we have had many challenges and failures, we have maintained the enthusiasm and confidence that the MPC would become a reality, and we are confident it will be a success. As WinstonChurchill said, "Success is the ability to go from one failure to another with no loss of enthusiasm."

The Cal Poly Animal Science Department has been fortunate to have many major donors who have graciously supported the construction of this $6.5-million facility. The majority of the funding is from private donors, with less than $1 million dollars of support from the state. It is remarkable that the meat food industry has provided the majority of the funding for this facility through their foresight and understanding of the need to educate young professionals to enter the dynamic food industry.

The 14,500-square-foot facility is scheduled to be completed in October 2011. The building will contain large animal and poultry harvest labs, a fabrication room, processing room, an innovation kitchen for ready-to-eat product development, a packaging development room and a small retail area for product sales. In addition, the building will include a large conference room, three staff offices, a U.S. Department of Agriculture office, student lockers and dressing rooms, dry ingredient storage, and a Hazard Analysis and Critical Control Point laboratory for food safety research.

The meat food industry is rapidly moving toward consumer-driven products, with expansion of ready-to-cook and ready-to-eat products to meet the needs of families who have less and less available time. Consumers have become increasingly aware of food safety issues and want to know where their food was produced, processed and packaged.

The new MPC will afford the opportunity to conduct research on safety issues affecting the food industry and provide a site to educate consumers. The meat processing industry will also be able to work with Cal Poly in this "one-stop shop" for product innovation, packaging development, and market strategies for getting a product to market.

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Cal Poly animal facilities